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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/688,802

10/16/2003

Phillip A. Hetherington

11336/592 (P03131USP)

9753

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7590

12/29/2009

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EXAMINER

ABEBE, DANIEL DEMELASH

ART UNIT

PAPER NUMBER

2626

MAIL DATE

DELIVERY MODE

12/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/688,802	Applicant(s) HETHERINGTON ET AL.	
	Examiner Daniel D. Abebe	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-23 is/are allowed.
- 6) ☒ Claim(s) 1,9,11-14,24,25 and 27-35 is/are rejected.
- 7) ☒ Claim(s) 2-8,10,15,26,36 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 10/22/09 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 9, 11-14 and 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickel et al. (2002/0037088) in view of Ivo de Roo, herein after Ivo et al. (2007/0019835).

As to claims 1 and 9, Dickel teaches a system for suppressing wind noise comprising;

A noise detector that detects and analyzes wind noise from an input signal; and

A noise attenuator electrically connected to the noise detector to substantially remove the wind noise/buffet from the noisy input signal (claim1).

It is noted that Dickel doesn't explicitly teach modeling wind noise.

Ivo however teaches a system for suppressing wind noise by modeling wind noise having attributes of a line fit (Par.0049-0055, Figs 8b-8d). the combination of the two teaching would have been obvious to one of ordinary skill in the art at the time of applicant's invention for the purpose of efficiently analyzing and removing wind noise.

As to claim 11-14, Dickel teaches where the input signal (analog) is smoothed using filters and also where the input includes a first and a second microphone spatially separate (Par.0011, 0025).

As to claim 28, the computer readable memory comprising instruction to perform the steps claimed in claim 1 is analogous and therefore rejected as being anticipated by Dickel in view of Ivo.

As to claims 29-32, the claimed feature including measuring, attenuating input signal and the step of filtering the input signal are taught by Dickel

Dickel teaches where noises caused by wind are situated predominantly in the low frequency band. Which can be damped by appropriate high pass filtering and the wind noises thus can be effectively suppressed and where only higher-frequency signal components of the microphone signals are amplified (Par.0011-0018).

With regard to claim 33, detecting transient period for estimating the wind noise is inherent in the prior arts of record.

As to claim 34-35, the prior arts of record show where the logic for detecting and removing wind noise is coupled to a microphone and Ivo teaches where the noise modeled is wind noise as addressed above.

Claims 24, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickel et al. (2002/0037088).

As to claims 24 and 27, Dickel teaches a method for detecting and dampening/removing wind noise by fitting a line to an input signal and determining correlation values between the estimated noise (Par.0011, claim 3). Dickel doesn't explicitly teach the step of converting the signal into frequency spectrum as claimed.

Official Notice is taken that converting signals into complex spectrum is common and well known in the art of speech processing and would be obvious in Dickel's teaching as an alternative way for spectrally processing and subtracting the noise signal in the frequency domain.

As to claim 25, the step of detecting background (including wind) noise during absence of a transient signal (such as speech) is inherent in Dickel teaching as estimating noise during non speech activity is customarily done by conventional arts.

Allowable Subject Matter

Claims 16-23 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the claims are allowed because Ivo doesn't teach the system including memory comprising wind buffet line fitting rules as recited in the claims.

Claims 2-8, 10 and 15, 26, 36 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D. Abebe whose telephone number is 571-272-7615. The examiner can normally be reached on monday-friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/688,802
Art Unit: 2626

Page 6

/Daniel D Abebe/
Primary Examiner, Art Unit 2626